Mapping It Out

Summary

This activity will help students learn about Utah's environments, temperature, elevation and rainfall.

Materials

For each group:

- Utah Maps pages (pdf)
- Utah Question Cards (pdf)
- Overhead transparencies of the maps of Utah

Additional Resources

Book

- Atlas of Utah

, editor, Wayne L. Wahlquist, (Weber State College, BYU Press); ISBN 0-852-1831-1. This is an older book found in the reference sections of libraries,

but it has excellent maps with a variety of Utah information.

Background for Teachers

Fourth grade students not only need to learn about Utah's environments, temperature, elevation and rainfall, they also need to create relationships between these concepts. This activity requires students to use map reading skills and to make connections between elevation, climate, and temperature. They will then communicate this information to classmates. Not only will students be discussing science concepts, but also math skills of reading temperature and rainfall figures that are applied in practical ways.

This activity uses the jigsaw model. Each group or team will take a set of questions, become the expert in that area, and then present their findings to the rest of the class. In this manner, all students learn information, but each group has different questions to answer. The maps used for the activity contain the following information:

Map A: Temperature

Map B: Elevation

Map C: Rainfall (Precipitation)

Map D: Environment

Many questions can be discussed with students. Consider how different factors might affect the development of different environments (e.g., more rainfall supports more plant and animal life). Would climate also affect where particular animals and plants can live? (Yes, animals depend on food sources that are specific to certain climate conditions.) Students should begin to see relationships between temperature, rainfall, environments, and elevations. They will also see trends that develop because most of Utah is a high basin desert, which creates conditions for specific trends in these areas.

Intended Learning Outcomes

- 1. Use Science Process and Thinking Skills
- 2. Manifest Scientific Attitudes and Interests

Instructional Procedures

Invitation to Learn Ask students to solve the following riddle: I can be as long as 450 miles or fit in the palm of your hand. I can be blue, green, white, or sometimes bright pink.

I can be detailed and fascinating to some, or very boring to others.

I can be confusing or keep someone from getting lost.

What am I?

A map of Utah!

Instructional Procedures

Review the maps of Utah. Tell students this activity will help them practice applying some of the information they have learned about Utah, and make decisions from reading a variety of Utah maps. *Utah Question Cards* should already be cut.

Organize groups of three to four students. Have each group select one of the *Utah Question Cards*. Tell students they are going to use the jigsaw model and study the relationships between climate, elevation, temperature, and environments. Each group will study their questions and determine answers from the information found on the maps of Utah.

Have each group study and organize their information to present to the whole class.

After each group has had an opportunity to investigate, take turns sharing their discoveries with the class. Allow groups to present their findings. (You may find it useful to have overhead copies of the larger maps available for students to use.)

Have students write a paragraph about the four maps in their science journals. Use questions such as the following for structure:

What is the relationship between elevation and temperature in Utah?

What is the relationship between rainfall and environments in Utah?

Do these characteristics affect the plants and animals in the environments?

Write two conclusions you can draw from your investigation.

Extensions

A social studies connection to this activity is one that helps students practice using grids on maps. It also ties into Mathematics Standard III, Objective 2: Specify locations and describe spatial relationships using grids and maps.

After a discussion of how a grid can help you find places on a map, or if you are learning about grids during math, transfer the skill to the Utah map. Show students a grid on an overhead, and then place the grid over the Utah map (also on an overhead). Have students practice identifying and pointing to grid locations. They can also locate the grid

square of specific Utah locations and tell what part of the state it is located in. Practice with cities, as well as counties or landforms. They should state the specific locations and then tell the compass rose directions.

Place the grid over one of the maps from the preceding activity. Ask:

Which grid squares contain wetlands? Forests?

Which grid squares are only desert?

What is the average temperature in C5? D1?

What is the typical rainfall in A3?

Family Connections

The next time your family takes a trip anywhere in the state, practice using a map to plan out the trip. Perhaps the student can be the co-pilot for the family driver and use skills learned in school to help with travel.

Notice maps used in a variety of places in the coming months. Newspapers, weather people on television, bus routes, and the Trax route all have maps.

Create a treasure map for family members to follow to locate a special place or treat.

Participation in the map discussion is a good assessment. Students should answer the questions on the *Utah Question Cards* correctly and respond appropriately in their science journals.

Authors

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